

# **Some of the Changes to the City of Lincoln's “Standard Specifications for Municipal Construction” And Lincoln Standard Plans (LSPs)**

## **Specifications:**

This list is not intended to be exhaustive or include all of the changes made to the 1999 and/or 2004 Supplemental versions of the book. This is only to highlight some of the changes that have occurred. It is the responsibility of the readers to insure themselves of what the most current version says regarding a particular subject.

## **General Conditions & Requirements**

Please read this section very carefully. This section has been totally rewritten to combine both the yellow pages of the old book and the general conditions attached by purchasing. In addition several time frames, percentages, and responsibilities have been changed. The insurance and bonding requirements have been reference to appropriate web links instead of being printed and out of date with the first change.

## **Chapter 1 - Pavement Construction & Reconstruction**

- 1.02 Require materials to be on NDOR “Approved Products List”.
- 1.03 Define Pavement Construction.
- 1.03.B Define lift thickness limits for full-depth asphalt pavement.
- 1.03 BASIS OF PAYMENT Define basis of payment for pavement with and without integral curb.
- 1.04 Define concrete and asphalt requirements for Pavement Reconstruction.
- 1.05.E Add ground sleeve installation requirements to Appurtenances And Miscellaneous.

## **Chapter 2 - Earthwork**

- 2.03 Rewrite description and Basis of Payment for Excavation, Over-Excavation, and Excavation Borrow.
- 2.09 Require 100% compaction for subgrade under full-depth asphalt pavement

## **Chapter 3 - Portland Cement Concrete Pavement**

- 3.02.G Define curing compound requirements.
- 3.06.B Require mechanical vibration of concrete pavement with a design thickness greater than 6” when a non-vibrating hand screed is used.
- 3.08.A.2 Define requirements for curing with wet burlap.

## **Chapter 4 - Portland Cement Concrete Base**

- 4.02.B Define curing compound requirements.
- 4.07.A Define curing method requirements.
- 4.07.B Add strength requirement for L-3500 base.

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**Chapter 5 - Asphalt Concrete Construction**

- 5.00 Define patching.
- 5.06.A Disallow additional rolling or compaction after density cores have been marked.
- 5.06.C.1 Require density cores to be delivered to the Engineer immediately after removal from the pavement without any trimming or modification by the Contractor.

**Chapter 6 - Portland Cement Concrete Curb & Median Construction**

- Minor wording changes throughout.

**Chapter 7 - Sidewalks & Driveways & Bikeways**

- Minor wording changes throughout.

**Chapter 8 - Retaining Walls & Steps**

- 8.00 Require Modular Block and Reinforced Earth Retaining Wall Systems to meet and be built as per manufacturers specifications and installation instructions. Also require a site plan certified by a licensed engineer showing drainage volumes and overflow locations plus identifying soil types and adjacent loading conditions.
- 8.02.G Require Handrail Systems to meet ASTM E 985.
- 8.03.D Define free fall distance limits for concrete placement.

**Chapter 9 - Chain Link Fence & Pipe Railing Fencing**

- Minor wording changes.

**Chapter 10 - Crushed Rock Surfacing**

- 10.00 Require crushed rock and gravel sources to be on the NDOR approved "Gravel and Rock Producers" list.

**Chapter 11 - Portland Cement Concrete**

- No major changes from the 2004 Supplemental.

**Chapter 12 - Asphaltic Concrete**

- 12.02.A Qualify storage and handling requirements for polymer modified binder.
- 12.03.A Add Table 12.00 "Asphaltic Concrete Mix Requirements Summary".
- 12.03.D & E Add SPS, SP1, SP2, SP3, SP5 to mix and aggregate criteria tables.
- 12.04.B Rewrite and update plant requirements.

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## **Chapter 13 - Traffic Pavement Marking**

- Thermo shall have resealing characteristics such that it is capable of fusing with itself and previously applied marking material of the same composition to patch worn areas of previously applied material.
- 3M Liquid Pavement Marking 1500 or approved equivalent description added.
- LIQUID POLYUREA - TYPE II specs updated
- LIQUID POLYUREA - TYPE III added
- RAISED PAVEMENT MARKERS added
- TUBULAR MARKERS added
- Crosswalks and Crosshatching description added.
- When preformed material is laid over construction joints, surface cracks 1/4 inch wide or greater, then the material shall be removed for a distance of 1/4 inch on each side of the joint or crack.
- Information added regarding installing Liquid Polyurea type 1
- RAISED PAVEMENT MARKERS added
- Groove depth: 40 mils +/- 10 mils for 25 mils thick material
- At no time shall the depth of the groove exceed the depth specified in Section 13.04.
- At the end of the observation period, the minimum required retention percentage for marking installed shall be 90% and shall meet all millicandelas requirements for retroreflectivity of material.

## **Chapter 14 - Traffic Signs**

- Completely New

## **Chapter 15 - Traffic Control**

- Completely New

## **Chapter 20 - Construction for Utilities & Structures**

- 20.02.E Provide bedding gradation requirement.
- 20.03.D Specify maximum loose lift thickness for backfill. Require 95% compaction at all backfill depths. Add upper limit to backfill moisture content of 4% above optimum. Require water to be added when moisture is too low to get density and provide basis of payment.
- 20.06 Require bedding to 18" above top of pipe in areas where sheet piling or trench box is required to maintain vertical trench walls, and/or where flexible pipe is to be installed. Rewrite "Basis of Payment" to address Bedding and Foundation materials.

## **Chapter 21 - Storm Sewers**

- Minor Word Changes

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## **Chapter 22 - Sanitary Sewers**

- 22.02 plus other sections - Removed all references to ABS pipe. This is no longer an approved material by the City of Lincoln
- 22.02 - Added CCFMP as an acceptable piping material
- 22.12 - Added section about guarantee
- Minor wording changes throughout

## **Chapter 23 - Water Mains**

1. **Referenced Standards:** Added reference to AWWA C651, Disinfection of Water Mains. This standard is referenced when contractors are required to perform disinfection of larger water mains.
2. **Materials and Services Purchased from the City:** Deleted reference to air relief valves purchased from the City. Air relief valves shall be purchased by Contractor from a supplier.
3. **Contractor Supplied Materials:**
  - a. Deleted reference to "Set Screw" type retainer glands. All retainer glands shall be "wedge action" type and specifically designed and labeled for either PVC or DI pipe.
  - b. Deleted all references to lead products and joint packing materials
  - c. Added Section for Restraint Collars for Valves and Reducers which are subsidiary items and not paid for separately.
4. **Installation of Pipe and Fittings:**
  - a. Added reference to installation in accordance to manufacturer's instructions and requires contractor to submit a copy of instructions prior to installation.
  - b. Added reference requiring Contractors to demonstrate preparedness on constructing loops for utility conflicts by having adequate personnel, equipment and materials. Requires contractor to preassembly loop prior to shut down of water. Allows for additional service fees to be charged for extended shut downs.
  - c. Added sections specific to PVC and DI to describe how each pipe material shall be joined. Requires PVC to be constructed without bending the pipe.
  - d. Added section describing procedures for requesting a water main shutdown which requires at least a 48 hour notification. Service fees charged for shutdowns shall be subsidiary to water main construction and looping of utilities.
  - e. Clarified that retainer glands shall be counted and paid per Contractor's unit price. Does not apply to collars for valves and reducers where the use of retainer glands is shown. These shall be subsidiary items when used in a thrust collar.
5. **Installation of Valves and Hydrants:**
  - a. Added reference to limiting hydrant extensions to one per hydrant.
  - b. Requires the purchase of properly configured hydrants depending on the required orientation. Adjustments made by LWS shall be billed to the Contractor.
6. **Temporary Hydrants and Blow-offs for Flushing and Disinfection:** This is a new section requiring blow offs to be of sufficient size for proper flushing velocities and

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requires the contractor to install adequate erosion control measures. Costs shall be subsidiary to water main installation.

7. **Water Service Construction or Reconstruction:** Adds reference requiring the inspection of all water services when uncovered to assess their condition and allow for reconstruction if desired by the property owner.
8. **Abandonment of Water Main:** This is a new section describing the method of abandoning water mains and valve boxes. Cost shall be paid as a lump sum when called out on the plans.
9. **Disinfection of the Completed Work:** Adds reference clarifying when City provides disinfection services and when the Contractor provides these services based on pipe size. Requires Contractors to submit a flushing and disinfection plan using AWWA C651 methods.
10. **Final Completion and Acceptance:** This is a new Section requiring that all work associated with the proper installation of the water main including valve box grade adjustments, hydrant grade adjustments, and hydrant orientation adjustments be completed prior to final completion and acceptance.

### **Chapter 24 - Traffic Signal & Street Lighting**

- **QUALIFIED PERSONNEL** - A certified and qualified journeyman lineman shall be on the job site to supervise the pulling of the fiber, splicing of wire where permitted, and to perform the task of final connections in all signal indications, push buttons, detectors, cameras, and dynamic message signs. A licensed and qualified journeyman electrician shall wire the cabinet. Proof of certification or license of individuals on job site will be required at the pre-construction meeting. All workers on the job site shall have International Municipal Signal Association (IMSA) Traffic Signal Level 1 certification or approved equivalent within one year of employment.
- When the item is furnished by the City the item of payment is prefaced by the word, "Install".
- Furnished materials can be picked up at Traffic Operations storage locations between 7:30 a.m. to 8:30 a.m. weekdays with 24 hour notice, with the exception of city holidays, or LES...The cost of damaged materials shall be deducted from the final payment.
- In cases where multiple signals are involved, 24 hours per signal shall be provided. Requests shall go through the Project Manager. Signal turn-ons shall occur between 8:30 a.m. and 3:00 p.m., Monday through Thursday
- All traffic signal foundations shall be completely removed, when removing a pole.
- Tracer wire systems and Locate Sticks
- An Observer shall be present for the pouring of all traffic signal foundations. The Project Manager shall be contacted 24 hours in advance of the pour. Any foundations poured without the Observer present shall be subject to removal and replacement at the Contractor's expense
- Contractor shall use 90 degree factory sweeps in controller bases and in fiber pull boxes; in all other cases, the Contractor shall use 90 degree factory bends
- Conduit sock

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- New cables added
- Information added about fiber termination
- Waterproof Block Connectors and Direct Buried Splice added
- Ground rods must be attached to pedestal bases
- Video detection section added
- Clamp kit specifications
- Signal cover shall be used to cover heads. All traffic signal head locations shall be marked on the pavement by the Contractor prior to installation and approved by the Engineer.
- Section on climate control cabinet added
- All push buttons shall be marked by the Contractor and approved by the Engineer prior to installation
- Dynamic message sign section added.
- Traffic monitoring camera section added

### **Chapter 25 - Ornamental Lighting**

- No work shall be done on any electrical circuits without making sure the connection to the source of supply has been broken. Arrangements for clearance shall be made with the System Control Department of the Lincoln Electric System (LES).
- Ground rods shall be at least one-half inch (") in diameter and ten feet (10') in length.
- All trenches shall be backfilled and compacted daily unless properly protected. All trenches for burial of electrical cable and conduit shall not exceed 6 inches in width.
- Directional boring may be used at Engineers/Contractors discretion.
- Embedded steel poles shall be backfilled with a high density modified polyurethane foam. The Contractor shall coat the entire vertical pole butt surface with foam from base 1 foot below ground line. The poles shall be masked to 1 foot below the ground line to prevent splattering and provide a uniform edge.
- A ground rod shall be set in undisturbed earth 24 inches from the outside edge of the augured pole with the top of the ground rod 12 inches below grade.
- inch Schedule 40 PVC conduit shall be installed under all existing paved roadways, sidewalks, or driveways that have to be crossed, unless otherwise specified.
- Locations of power supplies are shown on the plans. The bottom 10' of power supply risers shall be 1 inch) schedule 80 PVC or steel conduit unless otherwise specified and shall be mounted in accordance with Lincoln Electric System specifications. All steel risers shall be grounded. All pole risers shall be on stand off brackets provided by LES and can be picked up at the Lincoln Electric System store room. See LSP 83 for spacing detail. Power supplies from transformers or service pedestals shall be installed by the Contractor. Notify LES to make final connection

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## **Chapter 30 - Seeding and Sodding**

- 30.02 Quality Assurance
- 30.03 Source Quality Control
- 30.04 Planting Season
- 30.05 General Plant Materials Requirements (Includes Seed, Sod & Plugs)
- 30.06 General Construction Method (This has been revised to include more details)
- 30.07 Cover Crop (This has been added as an alternative when seeding/sod/plugs aren't an immediate option).
- 30.08 Seeding ( This has been revised to add more information/direction)
- 30.09 Sodding (This has been revised to add more information/direction)
- 30.10 Plugging (This has been revised to address specifically buffalo plugs not zoysia including spacing information and general maintenance)
- 30.11 Acceptance and Establishment Period (This was absent in the previous specs. and may vary depending on the project and type of seed/sod)
- 30.12 Replacement of Material & Guarantee Period (This was absent in the previous specs.)
- 30.13 Vandalism (This is new and clears up the question about replacement if it occurs)
- 30.14 Qualifications for Submitting Bids (New)
- 30.15 Requirements for Submitting Bids (New)

## **Chapter 31 - Landscape Work**

- This chapter has been rewritten to conform with the latest community standards to date

## **Chapter 32 - Soil Erosion Control**

- This chapter has been rewritten to conform with the latest regulations and industry standards to date

## **Chapter 33 - Irrigation Work**

- This is a new chapter, not in old book.

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## **LSPs**

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### **LSP 78 sheet 1**

- new
- Contractor supplies the ground sleeve

### **LSP 78 sheet 2**

- new
- Contractor supplies the clamp kit

### **LSP 78 sheet 3**

- new

### **LSP 78 sheet 4**

- new
- 7' minimum from ground or paving to the bottom of sign

### **LSP 78 sheet 5**

- new

### **LSP 78 sheet 6**

- new

### **LSP 79 sheet 1**

- new

### **LSP 79 sheet 2**

- new

### **LSP 80**

- No 20/C anymore
- 7/C dedicated to every possible Left Turn position



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## **LSP 81**

- Must use Split Repair Conduit for Repairs

## **LSP 82**

- B-5 Base for F Cabinet added.
- Only No 8 Circuit Ground from Cabinet to first pull box.

## **LSP 83**

- Standoffs added

## **LSP 85 sheet 1**

- Case 4 added
- Placement for DMS added

## **LSP 90**

- Stiffener collar added to type 3
- Drill a hole in pedestal base to accept terminal lug to ground wire

## **LSP 163**

- Staking Details added

## **LSP 185**

- Bedding material is now filled in to 1'-6" above pipe

## **LSP 200**

- Steps removed
- Pipe extended 12" into manhole and cut out added

## **LSP 201**

- Pipe extended 12" into manhole and cut out added

## **LSP 310 sheet 1**

- Detail with pipe outside of manhole added
- Check other details modified

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**LSP 310 sheet 2**

- Details from original LSP 310

**LSP 320**

- Thrust Collar For Retainer Glands added
- Concrete quantity for 6" and 8", 45 degree Thrust Block is 0.2 C.F.

**LSP 340**

- Chamfer For 12" PVC Butterfly Valve added

**LSP 600**

- All ramp areas shall be 6" thick

**LSP 660 sheet 2**

- new

**ADDRESS YOUR QUESTIONS, COMMENTS OR  
SUGGESTIONS TO [bsweney@lincoln.ne.gov](mailto:bsweney@lincoln.ne.gov)**